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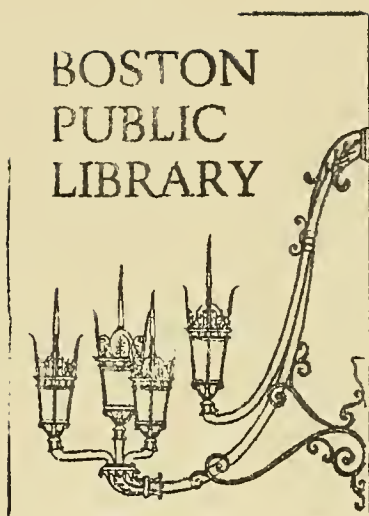
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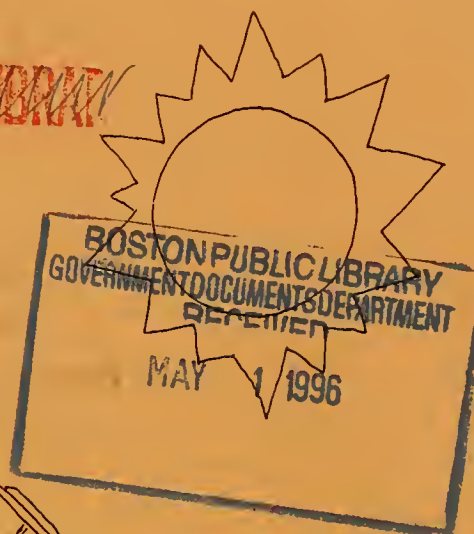
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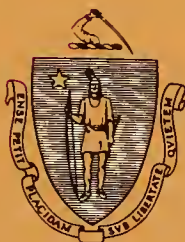
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CETA



and Energy Conservation

December 1978



State Employment and Training Council
Department of Manpower Development



*The Commonwealth of Massachusetts
Department of Manpower Development*

*State Manpower Services Council
Charles F. Hurley Building, 4th Floor
Government Center, Boston, Mass. 02114*

RALPH E. JORDAN
EXECUTIVE DIRECTOR
STATE MANPOWER
SERVICES COUNCIL

B. J. RUDDMAN
ASSISTANT SECRETARY
OF ECONOMIC AFFAIRS
FOR MANPOWER DEVELOPMENT

December 22, 1978

Dear Friend:

As the cost of energy rises each year, it becomes more apparent that energy is a key factor in maintaining and boosting the Massachusetts economy. While the entire country has been affected by the cost of energy, New England has been hit particularly hard because an extremely high percentage of our energy is in the form of imported oil, and because we are geographically situated at the end of the pipeline for other basic fuels, gas and coal.

The rising cost of energy manifests itself in several ways. It affects industry by raising the cost of manufacturing and doing business in Massachusetts. It eats up personal income, leaving people less money to spend on other goods and services. This is compounded by the fact that dollars spent on energy go directly to outside energy suppliers, while money spent on other types of goods is usually circulated back into the local economy to create more local jobs and income. Furthermore, the conventional response to the energy problem -- investment in large, capital-intensive energy production -- actually diverts capital from industries which could create more jobs and thus stimulate the economy.

More and more people are realizing that from an employment and economic development perspective, a key approach to the energy problem is conservation. A recent study by the Massachusetts Energy Office predicted that through conservation, New England could cut its annual energy usage by 30% by 1985. In the process, 50,000 jobs would be created and New Englanders would save \$1.4 billion in annual energy expenditures. While such an effort will require serious commitment on the part of government, industry, and the public, a first step has already been taken through CETA public service employment and training programs. From insulating the homes of low-income people to educating the public about new energy-saving technologies, CETA is opening up new fields that are not quite ripe for private sector involvement, and at the same time saving Massachusetts citizens millions of dollars in fuel costs.

This handbook will give you a good understanding of the role that CETA can play in energy conservation. I hope it will spark ideas for CETA programs that will create good employment and training opportunities and will, at the same time, benefit the local economy through energy conservation.

Sincerely,

A handwritten signature in dark ink, appearing to read "R. E. JORDAN", with a stylized flourish.

Ralph E. Jordan

REJ:sc

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STATE EMPLOYMENT AND TRAINING COUNCIL

The State Employment and Training Council (SETC) acts as an advisory body to the Governor and assists in the coordination, planning, and implementation of employment and training programs in the Commonwealth. It consists of chief administrative officials of the State's larger cities and representatives of business, labor, government, community groups and the private sector.

The SETC staff, part of the Department of Manpower Development, serves the Council in the development and implementation of state employment and training policies. In addition, the SETC staff develops, monitors, and evaluates programs funded from the Governor's 4% and 5% Comprehensive Employment and Training Act Discretionary Funds; reviews the annual plans of the prime sponsors in the Commonwealth; coordinates the activities of other employment and training agencies; provides technical assistance to prime sponsors and CETA project operators; and compiles and publishes an annual employment and training report for the Governor.

ACKNOWLEDGEMENTS

This handbook was prepared with the aid of a grant from the Governor's 4% Discretionary Fund. It was written by Sarah Rubin, Phil Shapira, Therese Pietryka, Don Borchelt, Millie Erb, and typed by Sylvia Cohen.

We wish to thank Jim Keefe for his support and enthusiasm, and the many people who critiqued drafts of the handbook, especially Jane Kosut, Joan Rooney, Barbara Sagan, and Mike Sherman. Most of all, we express appreciation to the CETA prime sponsors, subgrantees, and program operators who talked with us at length about their experiences.

Cover design by Don Borchelt.

PHOTO CREDITS

- p.1 Montachusett Opportunity Council (MOC) solar greenhouse, Leominster, MA
- p.7 Cambridge Economic Opportunity Council (CEOC) weatherization van, Cambridge, MA
- p.11 CETA worker with bag of insulation, photo from Mass. Dept. of Community Affairs
- p.29 CETA worker blowing insulation into attic, photo from Mass. Dept. of Community Affairs
- p.35 CETA worker insulating heating pipe, photo from Mass. Dept. of Community Affairs
- p.41 Members of CETA youth crew who built MOC solar greenhouse, Leominster, MA
- p.47 Glass at WHIPS recycling center, Westfield, MA

Chapter 1

Alternative Approaches to the Energy Problem



There is widespread awareness in Massachusetts and throughout the U.S. that we face a serious energy problem. The cost of conventional forms of energy (oil, gas, coal, and the electricity generated by burning these fuels) is rising every year. Nuclear power is also very expensive and poses questions of public safety. Yet the amount of energy consumed in the U.S. still increases every year, despite its rising cost and despite the knowledge that some day our supply of oil, gas, coal, and nuclear fuel will be used up.

There are three basic approaches to meeting our energy needs: 1) we can generate energy through large-scale, high technology methods using oil, gas, coal, hydro-electric, and nuclear power; 2) we can harness energy through more small-scale technology using, for example, solar, wind, wood, and water power; 3) we can conserve energy by using all types of energy more efficiently.

The first approach, high technology energy production, is beyond the scope of this handbook, which deals with community-level energy projects. Drilling for oil or constructing a power plant requires a huge amount of capital, employs relatively few people, and must be done on a scale much too large to be undertaken by a local group. In addition, to the extent that this approach relies on non-renewable resources (resources of which we have a limited supply, such as oil, gas, coal, and uranium), it will result in energy which is increasingly expensive.

The second approach, using less complex, smaller-scale technology, is much more adaptable to programs sponsored by local government and community groups. This approach includes activities such as installing solar or wood heating systems in individual buildings, and requires relatively little capital in relation to the number of jobs created. In addition, it uses sources of energy which are plentiful in Massachusetts (sunlight, wood, water, and wind) and which are renewable, i.e., they will never be used up. Consequently, the energy harnessed through this approach will, over the years, become cheaper rather than more expensive. This approach is referred to as "alternative technology" because it offers an alternative to the conventional sources of energy (gas, oil, coal, nuclear).

The third approach, conservation, also lends itself extremely well to small-scale, local efforts to reduce energy costs. This approach includes changing people's habits of energy use, renovating buildings so they waste less energy, and improving heating systems. Such schemes require very little capital and can create many local jobs; they can significantly reduce energy costs for households, government, and private industry.

CETA is a valuable resource for local groups that want to get involved in energy conservation and low-technology production programs. CETA public service employment and training resources have already been used in a wide

variety of energy programs in Massachusetts, many of which are described in this handbook. While these programs require a certain amount of technical expertise, they can make a real contribution to a local community and can provide good work experience for CETA participants. CETA's public service focus fits well with both energy conservation and alternative energy projects, and, in fact, the new CETA law enacted in October, 1978 specifically cites weatherization and alternative energy technology (solar, wind, etc.) as areas which should be supported with CETA resources.(1)

(1) Comprehensive Employment and Training Act Amendments of 1978, Sections 121(m) and 123(c). (P.L. 95-524)

The CETA System

Enacted in 1973, the Comprehensive Employment and Training Act (CETA) is a federally funded program designed to aid the economically disadvantaged, unemployed, and under-employed.

To decentralize the administration of the program there is a network of CETA "prime sponsors." Massachusetts has nine prime sponsors, eight of which (Boston, Brockton, Cambridge, Fall River, Lowell, New Bedford, Springfield and Worcester) are cities or consortia of cities and towns with populations of over 100,000. The mayor or city manager of the lead city is responsible for the administration of the CETA program in that area.

For the remaining areas of the Commonwealth, the Governor serves as chief administrator of the "Balance of State" prime sponsor. Local participation in the administration of the Balance of State program is achieved through seventeen local consortia, with the chief elected official (either the mayor, city manager, or the chairperson of the board of selectmen) of one municipality within the consortium designated as the "subgrantee." The subgrantee establishes a local CETA office, hires a CETA Director and other staff, and receives funds from the Balance of State prime sponsor to serve the consortium area.

The U.S. Department of Labor (DOL) is the federal agency responsible for CETA. DOL receives the Congressional appropriation and allocates these funds to prime sponsors based on formulas contained in the legislation. DOL also issues regulations based on the Act with which prime sponsors must comply. Within this framework, specific program priorities and policies are generally left to the discretion of the prime sponsors. The Massachusetts prime sponsors are covered by the DOL Region I office, located in the John F. Kennedy Building, Government Center, Boston.

CETA programs include public service employment authorized under Title IID and Title VI of the new CETA law, a variety of training programs authorized under Title II A, B, and C, and a variety of youth programs under Title IV. Most of the programs described in this handbook were funded as Title VI public service employment projects. Such projects can be operated by local or state government agencies or by private non-profit organizations and must provide a public service. Often they also incorporate training for the CETA workers. To be eligible for employment under CETA, a person must be economically disadvantaged and unemployed or a welfare recipient. The population of CETA-eligible people varies widely in skill level and work history. Consequently, depending on the type of project and the amount of money available for training, good CETA projects often include support services, pre-employment training, and on-the-job instruction for the CETA participants.

A few energy programs have been designed strictly as training programs, using classroom instruction or on-the-job training to prepare CETA participants for work in new fields such as solar installation and energy auditing. Youth programs, particularly the Youth Community Conservation and Improvement Program

(YCCIP), have also lent themselves well to energy-related projects such as weatherization and recycling.(2)

Who Can Operate a CETA Energy Program?

A variety of public agencies and private non-profit organizations have operated energy programs using CETA funding. Some of these and the types of programs that they have operated are:

A. Municipal Agencies

1. Community development departments can sponsor a wide range of energy projects under their broad community development mandate. Possibilities include energy audits on public buildings and residences, weatherization as part of a housing rehabilitation program, construction of solar greenhouses as part of a community garden program, and recycling programs.
2. School departments and public housing authorities can, in some cases, operate energy audit and weatherization programs.
3. Redevelopment authorities often incorporate weatherization into housing rehabilitation programs.
4. Public works departments can operate recycling programs.

B. Other Government Agencies

1. State colleges and universities have sponsored CETA energy projects and provided technical assistance to other project sponsors.
2. The U.S. Department of Agriculture Cooperative Extension Service, based at the University of Massachusetts in Amherst provides educational services in a range of local development activities including natural resources, community resource development, and energy conservation. It was the coordinating agency for eight CETA-funded energy audit projects, described in Chapter 3.

(2)For more information on CETA and its administration in the Commonwealth, the State Employment and Training Council staff has produced a booklet called Introduction to CETA: A Handbook for Non-CETA Administrators. Copies can be obtained by writing to the State Employment and Training Council, Department of Manpower Development, C.F. Hurley Building, 4th Floor, Boston, Massachusetts, 02114.

C. Non-profit and Community Organizations

1. Community action agencies have access to federal funds for weatherization and other types of energy programs, and have operated many successful CETA projects.
2. Community development corporations and neighborhood groups can sponsor almost all types of energy programs described in this booklet. Some of these programs can double as economic development ventures.
3. Citizen interest groups have operated a variety of research, education, and advocacy programs in recycling, conservation, and alternative technology.

Purpose of This Book

This handbook is designed to demonstrate to community organizations and government agencies the ways in which CETA can be a resource for energy programs. It gives advice on planning good projects and describes types of energy projects that have been successful in Massachusetts. It suggests how CETA can fit into ongoing programs, discusses relevant CETA regulations, and provides information on sources of supplementary funding. The appendix suggests further resources for technical assistance.

This is by no means a complete documentation of existing CETA energy programs, nor a complete listing of ideas for using CETA in energy programs. However, it contains many ideas and good advice on where to begin in designing various types of CETA projects with common goals: to decrease our dependence on non-renewable resources, to lower energy costs, and to create worthwhile jobs for CETA workers.

Chapter 2

Designing an Energy Project



CETA has the potential to play a major role in energy conservation and alternative energy projects. But if this potential is to be used to meet the particular energy needs and employment needs of people in the local community, a certain amount of thought and planning must go into the design of a CETA program. The organization planning the program should take two initial steps -- first, review the local energy situation to identify the local problems and possible solutions and to decide what role the organization wishes to play. Second, consider where CETA can best fit into these plans, and, if CETA seems appropriate, develop a proposal for CETA funding.

Step 1 — Reviewing the Local Energy Situation

While certain types of energy programs are appropriate almost anywhere in Massachusetts, it is important for a group contemplating an energy program to think about the nature of its geographical area. Is it an urban or rural area? What type of housing predominates -- triple-decker or single-family, owner-occupied or rented, very old or moderately new? What types of fuel are used in the area? What are the abundant local resources that can be tapped?

Find out if other groups in the area are already operating certain types of energy programs and what type of program would best complement these efforts. Think about the nature of your organization, the technical skills available to it and the experience of its staff. How sophisticated a program can the organization handle? What are the organization's goals? If it seeks to serve low-income people, then a program such as weatherization that offers a direct service to low-income households might be the most effective energy program. If it is more interested in educating the public, a demonstration solar project might be the best route. If it wants to take a more comprehensive approach, it can undertake a major research, planning, or organizing project.

All of the energy programs described in this handbook provided services to their communities. There are trade-offs, however, between the various types of programs, and, given a limited amount of time and money, each organization must set its own priorities. For example, an energy audit program which gives homeowners advice on conserving energy can cover many more homes in a year than a weatherization program which installs insulation and storm windows. The weatherization program, however, saves more energy for each home because it provides a more direct service. Similarly, one program might install solar heating systems in just a few homes while, during the same time period, another program could weatherize twenty homes. Again, each program has its advantages -- the solar program trains its workers in more sophisticated skills and new technology, while the weatherization program serves more people.

The importance of planning cannot be overstressed. Objectives should be clearly thought out and should be realistic and measurable; conscious choices must be made about what the project will attempt to accomplish and how it will operate. Is the organization willing to invest much time and energy in training its workers, or is it more concerned with, for example, weatherizing the maximum number of homes? Questions like this will help the organization decide whether CETA is an appropriate source of funding, and will also help the group set realistic objectives for its energy program.

Whatever route an organization decides to follow, an important part of the planning process is technical consultation. This includes reading, talking with people experienced in the field, and perhaps contacting universities or research institutions. The appendix lists sources of technical assistance for weatherization, energy audits, alternative technology, and other areas discussed in this handbook.

In addition, it is important to consult local residents, public officials, and organizations, such as labor unions, depending on the type of program envisaged. The organization should initiate a dialogue with local people to make sure that it stays in touch with local needs and understands the community's response to its ideas and proposals.

Step 2 — Designing a CETA Program

Once the organization has preliminarily reviewed the local situation and planned for its involvement in energy conservation, it is ready to decide on a suitable energy project and to consider the role that CETA can play.

By now, it is likely that the organization will be reasonably familiar with the types of funding assistance described in Chapter 6. Clearly, the organization will have to design its energy project to fulfill the requirements of the source(s) of funding to be requested. If all or part of an energy project is being designed around CETA, a number of significant issues must be considered to determine whether the organization can operate a quality CETA energy project. These issues include:

A. Energy-related Issues

- * Is the project appropriate to existing or projected community energy needs, be it serving individual low-income households or community-wide needs or goals?
- * Will the project make the community more energy-independent?
- * Will the project lead to actual (measurable) dollar savings which can be spent within the local economy? Or, will it raise living standards for the target group or meet a worthwhile social objective?
- * If this is an alternative energy project, does an appropriate and feasible technology exist or, if not, can one be developed?
- * If this is a service project, how well will it stimulate households to conserve energy? How many households will the project serve? How much will energy consumption be reduced? How will the project measure its effectiveness?

B. Employment and Training Issues

- * Will the project provide stimulating and worthwhile training and employment for unemployed persons, most of whom will have had little energy-related experience? What skills will be emphasized? Will the project include pre-employment training, if necessary?
- * Is the project labor-intensive, that is, does it provide employment for a reasonable number of people with little expense for equipment and administration?
- * Will the project include enough supervisors for the number of workers?

- * Will it displace other workers or compete with existing firms - or is it work that would otherwise never be undertaken?
- * Will the project increase the employability of the participants by providing them with relevant skills and experience? Are there jobs available in related fields that CETA workers or trainees can move into? How will the project help place the participants in jobs in related fields?

C. Operation Issues

- * Can the sponsoring organization handle the administrative and fiscal responsibilities of operating a CETA project?
- * Can the organization provide adequate supervision?
- * Will there be sufficient materials, tools, storage and office space?
- * If necessary, are there resources to provide vehicles and other capital equipment?
- * Does the organization have enough technical expertise, or have access to technical assistance?
- * Can the effort be completed within the projected time frame?

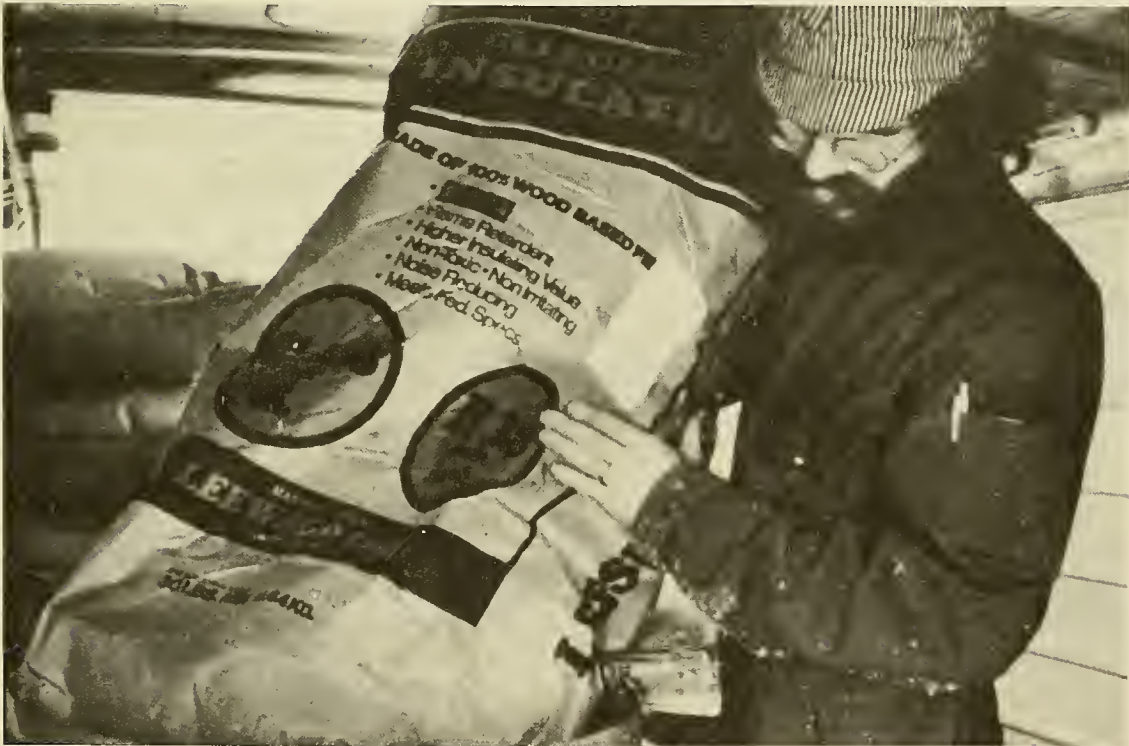
D. Community and Long-term Issues

- * Has there been sufficient public and community involvement in planning the project?
- * Will the project either reach and serve low-income residents or fulfill a needed public-service energy objective?
- * Is there the possibility that a permanent community energy-related enterprise could be developed from the project?
- * Will the project indirectly stimulate the local private sector by increasing demand for energy-related products, e.g., storm windows, insulation, wood stoves?
- * Will the project lead into a follow-up project or, at least, create the potential for follow-up projects?

While it is unlikely that any project will be able to completely and positively resolve every issue listed here, a good CETA energy project should be designed to strike an optimum balance -- to be positive on as many issues as possible, while being negative on very few. A few issues are especially crucial -- CETA projects absolutely must not compete with private firms or displace other workers, and the organizations operating the projects must be able to handle the administration of the project and must provide adequate supervision.

Chapter 3

Examples of Projects



CETA has been used in many types of energy projects throughout the Commonwealth. This chapter takes a detailed look at some of these projects, describing how they have used CETA and how they may be replicated. The projects have been categorized into four main types: research, energy conservation, alternative energy sources, and recycling projects.

A. Research Projects

Given the complex nature of the energy problem, careful research and planning on energy issues is important. However, to date, few local agencies have undertaken energy planning, and few organizations have operated CETA projects specifically to conduct energy-related research or planning.

An exception is the Franklin Community Action Corporation (FCAC) in Turners Falls. Funded by the Greenfield CETA subgrantee, FCAC employs two CETA workers as part of its Energy Conservation and Cordwood Enterprise program to do research, planning, and community organizing related to energy conservation and wood use.

A county clearinghouse for energy research, information, and legislation has been established, and a 26-member task force has been appointed by Franklin County Commissioners to provide information and technical assistance on energy conservation to local businesses, residents, and industry.

One goal of the task force is to encourage the use of wood, an abundant resource in Franklin County. If wood is used for home heating, low-income households can save money. In addition, if wood was used by local industry as a direct fuel or used indirectly through electricity generation, production costs could be decreased and the local economy stimulated. More widespread use of wood could also lead to an increase in jobs for local residents in the wood cutting and processing industries.

FCAC is examining all these possibilities by employing one of the CETA workers as a wood marketing specialist. He has conducted surveys to estimate cordwood needs and has explored strategies to encourage more use of wood. A tentative plan has been developed to establish a wood distribution co-op to supply residents with inexpensive cordwood; the co-op would help local woodcutters as well by giving them a steady market for their wood. The CETA worker has also investigated possible wood-cutting agreements with private landowners, to increase the amount of forest land available for careful logging. Finally, the wood marketing specialist has studied the use of wood as an industrial fuel and the possibility of a wood-chip-powered electric plant.

All in all, the FCAC research and planning project has been valuable and successful. The organization was fortunate in finding two committed and knowledgeable CETA participants, but this does not mean the project is not replicable. There are many appropriately educated or experienced CETA-eligible people throughout the State who could benefit from a challenging opportunity to effect change in their community.

To make a planning project really worthwhile, either the organization sponsoring the project or a related agency should have the interest and capability to follow up its research and planning with an action program. This is the case with FCAC; in fact, either FCAC or a community development corporation which is being formed in Franklin County intends to establish a cordwood co-op and possibly a wood-chip or other type of wood processing plant.

Although this particular project focused on wood, a research and planning project could concentrate on any of the areas touched on in this booklet, such as recycling, solar technology or hydropower. The focus should, of course, depend on the needs and resources of the community.

B. Energy Conservation Projects

The majority of CETA energy projects have been in the area of residential energy conservation. Conservation is the first step toward decreasing the use of non-renewable energy resources and reducing energy costs. Most CETA projects have focused on residential conservation, which directly benefits low-income homeowners; however, some energy conservation programs have concentrated on public buildings or community buildings.

The first step in a conservation project in either residential or public buildings is to analyze the building's energy efficiency to determine which conservation strategies should be undertaken. This analysis, often referred to as an energy audit, can be the sole focus of a CETA project or it can be coupled with a weatherization project. Weatherization (or winterization) tries to minimize heat loss by patching holes in walls, roofs, and windows and installing weatherstripping, storm windows, and insulation. Energy conservation can also involve improving the efficiency of a building's heating and/or cooling system, particularly furnace and hot water heater efficiency.

CETA projects have operated in all three of these areas -- energy audits, weatherization, and heating efficiency. Since energy conservation is a new field not yet fully embraced by the private sector, there is a great need for public service projects. However, there is not a large labor force experienced in energy auditing or weatherization. Consequently most of the effective CETA energy conservation programs have incorporated training (classroom and/or on-the-job) into public service employment projects. This training, along with adequate supervision, ensures that the CETA participants' work will be competent; it also prepares them for future work in the energy field.(3)

1. Energy Audits

Every energy conservation program must have as its starting point an analysis of each building's condition, to determine which weatherization strategies and/or furnace improvements are worth undertaking. Programs concentrating solely on energy audits, however, usually provide more detailed information

(3) There has been some dispute about the value of training people in energy auditing, weatherization, solar technology, and other occupations for which there is a public need but as yet there are few private sector jobs. While it is true that upon leaving CETA energy projects, the majority of CETA workers have not found jobs in related fields, the same is true for most types of CETA public service employment projects. Energy projects have the distinct advantage of teaching people skills for which private sector demand, though small, is increasing, and these are fields which have very few experienced workers. Now that national energy legislation has been enacted,

to building owners, such as recommendations regarding changes in energy use patterns (e.g., lowering hot water thermostat settings) and information on the cost-effectiveness of installing various levels of insulation, storm windows, or a new furnace. The assumption behind audit programs is that once homeowners realize how much energy (and hence money) they can save through weatherization, they will make the investment. An evaluation of the CETA-funded Energy Conservation Analysis Program (which is described below) surveyed homeowners two months after their homes had been audited. The study found that 85% of those responding to the survey had made some energy-saving improvements based on the auditors' recommendations or planned to do so. (4)

Energy auditing requires a moderate amount of training because auditors must be able to identify energy deficiencies, calculate heat loss, estimate potential savings from various weatherization measures and advise homeowners about the best methods to reduce their energy costs. These are valuable skills because some utility companies and private weatherization companies already employ energy auditors. The National Energy Act, which requires utility companies to provide audit services to their customers, will increase job opportunities in auditing. The same legislation also provides federal funds to weatherize public buildings, which will also create a demand for energy auditing.

The largest energy audit program in the State is the Energy Conservation Analysis Program (ECAP), operated by the University of Massachusetts Cooperative Extension Service. In 1977-78, pilot ECAP projects were funded in eight communities within the Balance of State CETA prime sponsor. They were all funded as Title VI public service employment projects and included a one-month training program at University of Massachusetts and 11 months of energy auditing under the auspices of local county extension offices. The entire program was evaluated by the Massachusetts Energy Office with a grant from the State Employment and Training Council (SETC) Governor's Discretionary Fund.

An example of one of these projects is the Hopedale ECAP. Funded by the Hopedale CETA subgrantee, this project is operated by the Worcester County Extension Service and performs energy audits on private homes. The work crew consists of one team coordinator, who is responsible for scheduling and publicity, seven energy auditors, an energy education technician, and a clerk. The participants were selected based on their interest in the program, willingness to learn, and basic math ability.

offering tax incentives for weatherization and requiring utility companies to provide energy audits, the job market for experienced auditors and weatherizers is bound to increase. CETA provides a unique opportunity for economically disadvantaged people to be among the first to enter this new field, giving them a head start toward energy-related careers. The key is for project operators to be committed to helping their CETA workers find permanent jobs, and to aggressively search for jobs for their workers in related fields.

(4) Massachusetts Energy Office, "Energy Conservation Analysis Program, A Residential Energy Audit Program, Final Evaluation Report," November, 1978.

The energy auditors began by receiving a month of training, including classroom training and closely supervised field work. They work in teams, visiting homes to administer an oral questionnaire and conduct a detailed inspection. The auditors discuss their preliminary conclusions with the homeowner, and within two weeks they send him or her a detailed written report summarizing existing conditions and estimating the savings that could be achieved through various improvements. In the first eight months, the project has performed 270 audits.

After the project ends, the coordinator and another team member are interested in starting their own energy audit business. One approach they are considering is a subcontract arrangement with major utility companies to do audits.

The Cooperative Extension Service intends to operate a similar program in 1978-79, expanding the training to include lighting audits and energy audits in schools and hospitals. It hopes to train 100-150 workers statewide starting November, 1978. However, a local group not affiliated with the Cooperative Extension Service could use the ECAP model to design its own CETA energy audit project. In this case, the project would probably have to hire a private firm to provide training. The ECAP evaluation includes a thorough description of the successes and shortcomings of the eight pilot projects, as well as recommendations for future energy audit programs. It is highly recommended reading for anyone planning a CETA energy audit program, and is available from the SETC or the Massachusetts Energy Office.

While the ECAP projects focused on private homes, public buildings are an equally good target for CETA public service employment programs. A model project was one funded by the Springfield prime sponsor in 1978, in which a consortium of ten rural and suburban towns joined together to audit 70 public buildings. The CETA workers performed lighting audits in accordance with the new state lighting code and used a comprehensive fourteen-page energy audit form distributed by the University of Massachusetts Cooperative Extension Service to record the condition of each building. The audit reports were turned over to the town governments, where they will be used in applying for the Department of Energy (DOE) funds that will soon be available for weatherizing public buildings. Without joining forces with each other and with CETA, these ten towns would not have been prepared to apply for DOE funds to weatherize their buildings.

2. Weatherization

a. Private Homes

With the enactment of the new CETA law, weatherization has been singled out as a public service that should be funded by CETA. The law states that "The Secretary (of Labor) shall facilitate and extend projects for work on the weatherization of low-income housing." It also defines the clientele for CETA-funded weatherization programs as the near poor, including families with incomes below 125% of the U.S. poverty level and other households approved by the Community Service Administration or the Department of Energy.(5)

(5)CETA, Section 123(c). See Chapter 5 for more information.

The National Energy Act further strengthens the federal mandate for CETA-funded weatherization of low-income homes.

The most widespread CETA weatherization projects in the State are those operated by the twenty-three community action agencies. These agencies receive federal funds from the Community Services Administration (CSA) and the Department of Energy (DOE) to buy insulation, storm windows, and other materials to weatherize the homes of low-income people. To install these materials, they employ CETA workers through either Title VI public service employment or Youth Community Conservation and Improvement Projects (YCCIP).

Generally the projects employ CETA crews of four to six workers plus a non-CETA supervisor and overall coordinator; some programs also employ CETA workers to inspect completed work and to handle applications. Each crew weatherizes about six homes per month, after an initial on-the-job training period of two to three months. The length of training and the productivity of the crews varies greatly depending on the previous experience of the CETA workers, who range from youth to adults and from experienced carpenters to people with no related skills. Since the programs are restricted by CSA and DOE legislation to spending a maximum of \$350-400 per home on materials, they cannot always weatherize up to the ideal level. Even so, they achieve an average of at least 20% in energy savings.

The community action agencies all incorporate some sort of energy audit into their weatherization programs, but these audits are less detailed than the ones done by ECAP projects. An audit procedure called Project Retrotech, developed by DOE, is currently used. Each weatherization project has at least one worker who specializes in energy audits, and in some cases all the crew members learn to do audits.

These programs concentrate on caulking, weatherstripping, installing storm windows (both interior and exterior), and blowing insulation into attics; in addition, some tackle oil burner repairs and major roof repairs. The programs provide weatherization services worth an average of \$300 in materials and \$700 in CETA labor to low-income people who could never afford to pay for the service.

While any non-profit organization or governmental agency can operate a CETA program, only community action agencies and a few other designated organizations receive DOE and CSA funds for weatherization materials. An organization wishing to operate a CETA weatherization program, then, must find some other source of money to cover the cost of materials. There are two ways to do this: have homeowners purchase their own weatherization materials or obtain local funds, such as Community Development Block Grant (CDBG) funds.(6)

CETA programs that weatherize private homes are restricted to 1) owner-occupied homes belonging to individuals who are at or below 125% of the poverty level or 2) public or private rental housing weatherization programs funded and approved by CSA or DOE. (7) In other words, all CETA weatheriza-

(6) Community Development Block Grants are discussed in Chapter 6.

(7) This restriction is further explained in Chapter 5.

tion programs must serve the same target population, whether they are operated by community action agencies or other organizations. Since this population is very low-income, a weatherization program cannot expect the homeowners to pay for insulation, storm windows, etc., and will in most cases have to rely on CDBG or other local funds to complement the CETA grant. Many cities, in fact, operate weatherization programs as part of their CDBG-funded housing improvement programs, and they may be able to expand their services by adding a CETA project to serve lower-income households and provide audits or other services.

One example of such a program is the Cambridge Redevelopment Authority's Just-A-Start Weatherization Program, which has linked CETA, CDBG and several youth programs in an innovative weatherization and audit service. Just-A-Start employs two public service workers through Cambridge CETA to advise homeowners on energy conservation. They test and evaluate heating systems, recommend insulation strategies, and educate homeowners about caulking, weatherstripping, and other basic energy-saving improvements. The homeowners are then referred to private contractors or to the Just-A-Start youth crew for weatherization work. Moderate income households hire private contractors and buy insulation materials themselves; low-income households use the free services of the Just-A-Start crew and get a rebate for materials from the city's CDBG housing improvement program.

Any organization that is considering operating a weatherization program for the first time should be aware of the technical expertise needed. Every weatherization program must have someone who is familiar with energy conservation in general and who has specific knowledge of: code violations (building and sanitary), safety precautions on the job, quality standards for weatherization materials, funding sources, and training techniques. In addition, to operate a good weatherization program the organization needs a certain amount of equipment. Ideally, it should possess: one truck per crew, at least one insulation blower per crew, ladders, power and hand tools, window-repairing materials, and first aid equipment. The Department of Community Affairs' Division of Social and Economic Opportunity, which monitors and assists community action agencies' energy programs, may be able to advise other groups in setting up low-income weatherization programs.

b. Public Buildings

Weatherization of public buildings is another area of great need. While CETA workers have helped weatherize public housing projects and schools, weatherization of some public buildings may be limited by prevailing wage laws. State prevailing wage laws require that any work done on public buildings must be contracted at prevailing rates, while the federal Davis-Bacon Act takes effect when CETA funds are combined with certain other federal funds to do construction work. (For more information on Davis-Bacon and state prevailing wage laws, see Chapter 5.) When these laws apply, CETA may be excluded as a funding source since CETA wages are considerably lower than the prevailing wage for construction work. However, there is some dispute as to whether weatherization is in fact construction work; also, it is often argued that CETA funds do work that would never otherwise be done. Consequently, in many localities, CETA project sponsors have worked out agreements with local labor organizations allowing them to perform work which would never be undertaken at prevailing wages.

A type of public building weatherization project which is always acceptable is one in which the CETA workers do only the simpler tasks such as weatherstripping, caulking, and installing storm windows or similar devices. Private contractors are then hired to install insulation and do the more sophisticated, skilled work. Such a program would be far from exemplary as a public service employment project, because it provides a relatively low-level, routine work experience. It can, however, be the basis of a good CETA youth program because it can teach youth basic work habits and expose them to a range of energy conservation skills. Such programs have been funded year-round under the Youth Community Conservation and Improvement Program (YCCIP) or for the summer under the Summer Program for Economically Disadvantaged Youth (SPEDY).

A very successful SPEDY weatherization program was funded by the Newton CETA subgrantee and operated by the Brookline Public Schools in 1978. This program employed one supervisor and ten young people, ages 14 to 21, to make simple energy-saving improvements in five Brookline school buildings. The youth caulked and weatherstripped windows and marked electrical lines on ceilings to facilitate the laying of insulation. They also monitored the amount of light in classrooms, and where there was excess illumination (in accordance with the new state lighting code) they replaced fluorescent light bulbs with "dummy bulbs" to conserve electricity.

The school department provided all materials and also hired private contractors to complete the weatherization by installing insulation. CETA provided the equipment, including ladders and drills, and the youth were instructed in using tools safely.

c. Private Non-Profit Buildings

A final target for weatherization is that of buildings owned by non-profit community organizations. Energy conservation is particularly important for non-profit organizations which wish to renovate and reuse old mill buildings, warehouses, and other large, uninsulated buildings.

One such organization is the Hoosuck Community Resources Corporation of North Adams, which is currently renovating a large mill building for use as crafts workshops and a school. The building is a typical nineteenth-century mill with many windows, high ceilings, and no insulation, and in renovating it the Hoosuck Corporation has come to the realization that the cost of heating is a major factor in the feasibility of reusing such buildings. In addition to insulating walls and roofs, Hoosuck decided to make the structure even more energy-efficient by installing insulating shutters that can be closed at night. A CETA worker experienced in building architectural models was put to work to design shutters that would be in keeping with the building's character and would also effectively insulate the windows. Although he had no formal training in this area, the worker designed a good shutter system which will probably be adopted throughout the building.

The Hoosuck Corporation currently operates a CETA project funded by the

Pittsfield subgrantee to renovate the mill, and it hopes to employ CETA workers to weatherize the building after the preliminary rehabilitation has been completed. Similarly, a community development corporation or other non-profit organization could employ CETA workers to weatherize a building that it intended to rehabilitate and lease, sell, or use itself.

3. Oil Burner Servicing

After a home is insulated, fuel bills will remain high if the heating system (which is an oil burner in most older urban New England homes) is dirty and inefficient. Many low-income people do not have service contracts with their oil suppliers. Consequently burners go uncleared and unadjusted for years. Because oil burner technicians must be licensed by the State and most are employed by oil companies, it is difficult for a weatherization program to hire an oil burner specialist as part of its CETA crew.

However, there has been one CETA project -- the Chelsea Oil Burner Service Training Project -- which has successfully carried out oil burner maintenance. This project provides an excellent model for cities and communities which wish to tackle the oil burner problem.

Operated by Chelsea Community Development Office's Winterization Program and funded by the Chelsea CETA subgrantee, the project aimed to provide training in oil burner maintenance and to offer a free service to low-income Chelsea residents who could not afford to maintain their burners. Nine CETA participants were employed: two (licensed) supervisors, five public service worker trainees, one outreach worker, and a secretary.

The project carefully certified the incomes of the residents who applied to have their burners serviced. In addition, homeowners had to show proof of ownership, and tenants needed release forms signed by their landlords. All applicants had to sign a form guaranteeing that they were not under contract with a private servicing company. Labor was provided free to all clients, and materials cost was reimbursed from Chelsea community development funds, on a sliding scale based on income. About four-fifths of those served received 100% reimbursement because they fell below the poverty level.

Once an applicant had been deemed eligible, a supervisor would take 3 or 4 trainees to the homeowner's basement to examine the burner and identify what needed to be done. A classroom was also set up at the offices of the Chelsea Winterization program, where the trainees received instruction and worked on both mock-up and operable burners. About half the time was spent in the basement, the other half in the classroom, with some additional training from the Fire Department.

The project ran from June, 1977 until May 8, 1978 and serviced 52 homes and 71 heating systems. Some burners were donated by businesses and individuals to replace particularly old or dangerous burners.

At first, private oil burner servicing contractors in the area were

apprehensive about the CETA program. However, once they saw that only very low-income households were being served and that CETA would not touch a burner whose tag said it had been recently serviced by a private contractor, this apprehension disappeared and a good relationship ensued.

The project did face the problems of a restrictive CETA purchasing system and low administrative budget. Nonetheless, the project was successful as a training program as well as a public service project. Three of the five CETA trainees took the oil burner technician exam given by the Massachusetts Department of Public Safety, and two passed. It should be noted that this project was funded entirely out of CETA Title VI public service employment funds, not training funds, so the success of the training component is a real bonus. The Chelsea model is particularly good in that it succeeded in meeting the dual goals of serving the low-income community and training CETA workers in a marketable skill.

Recently, the Massachusetts Energy Office and the Better Home Heating Council have funded a pilot program to test another approach to improving oil burner efficiency. This program educates consumers about furnace retrofit devices and trains oil dealers in the sale and installation of these devices. The devices can reduce oil consumption by as much as 30%. In the Springfield area, where the program is being pilot-tested, CETA workers in each of the community action agencies are learning how to evaluate oil burner efficiency as part of their weatherization procedures, and they advise low-income homeowners about installing the furnace retrofit devices. The cost and installation of the devices can usually be covered by CSA or DOE weatherization funds.

4. Conclusion: Energy Conservation Projects

The three types of energy conservation projects--audits, weatherization, and oil burner maintenance--lend themselves well to being combined or operated in successive years by the same organization. In 1979, the Springfield prime sponsor is planning to fund a \$1 million audit and weatherization program with 180 CETA workers placed at the Springfield Action Commission, Community Regional Opportunity Program, New England Farmworkers Council and the Cooperative Extension Service. All the workers will receive training in auditing and weatherization including one month in the classroom and three months of field work; they will then be prepared to audit and weatherize low-income homes and to educate the public on energy conservation.

One question that often arises in weatherization programs is that of labor union involvement. The Springfield prime sponsor has been successful in working out an agreement with the local building trades unions whereby the union members' skills are tapped for weatherization. Last year eight union members were employed in a CETA project to do energy audits, decide what type of weatherization work should be done, and inspect the work of the less-skilled CETA weatherization crews. This project operated in conjunction with the community action agencies' weatherization programs, but was sponsored by Jobs, Inc., the non-profit affiliate of the State Building Trades Council.

One component of CETA public service employment programs that cannot be

overstressed is job placement services. Although energy conservation is a growing field, jobs are scarce and require aggressive and consistent searching if they are to be found. A job placement service should be an integral part of every CETA energy program, and can be quite effective. The low-income weatherization program in Boston, operated by Action for Boston Community Development and funded by the Employment and Economic Policy Administration (EEPA), succeeded in placing 40 of its 60 crew members in full-time jobs, many energy-related. This relatively high placement rate for public service employment was achieved with help from the Neighborhood Employment Centers and similar agencies.

C. Alternative Energy Projects

One way to significantly cut energy costs is to develop sources of indigenous, renewable energy. Certain types of alternative energy -- low technology solar power and wood, for example -- are particularly desirable from an employment perspective because they are so labor intensive and because they use resources which are readily available in New England.

1. Wood-Related Projects

Alternative energy projects using wood are usually the simplest to operate. In rural Massachusetts, many people already rely partially on wood to heat their homes, and programs which allow them to increase this reliance can be very successful. The Franklin Community Action Corporation (FCAC) in Turners Falls, mentioned earlier in the discussion of research projects, has been especially active in promoting the use of wood for space heating. In addition, as part of its Energy Conservation and Cordwood Enterprise program, FCAC ran a project in which cordwood was cut and distributed free to low-income residents.

The cordwood component of the FCAC program employed five CETA workers to cut wood in the Quabbin Reservoir watershed. Timber to be cut was selected by the reservoir's chief forester. The crew produced 700 cords of wood, which was distributed to 350 low-income families.

While this project succeeded in providing cordwood to low-income people, it could have been even more successful had FCAC been able to purchase more equipment, particularly a skidder to haul trees from the woods. Several crew members expressed interest in continuing the woodcutting project as a private enterprise, but the lack of capital for equipment made this impossible. Without more sophisticated equipment the work is too physically strenuous and the project cannot produce enough cordwood to become financially feasible. As a rural service project, however, it was very effective.

Another CETA wood-related project was the Southeastern Vermont Community Action (SEVCA) stove project. Although CETA funds have been withdrawn from this project, it serves as an interesting model for alternative energy projects.

SEVCA decided to provide woodstoves to its low-income clients as part of

an energy assistance program. Rather than purchasing stoves, the organization obtained an original stove design and set up a CETA project to build the stoves from scrap materials. The project trained CETA participants in welding, producing stoves of such high quality that they were soon in demand in the private market. Since the project directors and participants were eager to make the project self-sustaining, they seized the opportunity to sell their product. At this point, the CETA funds were withdrawn because, while the project was not making a profit, it was generating income and there was some dispute as to whether this income could be reinvested in the project.

Despite this dispute, aspects of the SEVCA project can be replicated. The idea of producing an energy-saving device for low-income people is an excellent one, if this can be done without generating income. If materials and equipment were obtained through grants or donations and the CETA grant completely funded labor and administrative costs, then a project like the stove project could distribute its product to low-income people for free, as the FCAC cordwood project did. Furthermore, in the near future when the new CETA law takes effect, projects like this will be permitted to charge a fee for their products and to reinvest this money in the project. Consequently, community development corporations and other non-profit organizations will be able to achieve what both FCAC and the SEVCA hoped to do -- to use CETA to create self-sustaining public service enterprises and permanent jobs.(8)

2. Solar Projects

Massachusetts is fortunate in having many individuals, institutions, and private companies who are familiar with solar technology. Several CETA programs have already built solar greenhouses; one has experimented with solar collectors and is in the process of building a house, and another may soon embark on a solar retrofit project.(9) Depending on the complexity of the projects, different levels of technical assistance and supplementary funds for materials are needed. This should not, however, discourage a group from attempting a solar project. The projects can train CETA participants in a new field and can be highly visible in a community. Like wood-related projects, some solar projects also have the potential to develop into self-sustaining enterprises.

a. Solar Greenhouse

One of the easiest ways for a group to gain solar expertise is to begin with a solar greenhouse project. Two community action agencies, Citizens for Citizens in Fall River (Fall River prime sponsor) and the Montachusett Opportunity Council (MOC) in Leominster (Gardner sub-grantee), have successfully employed CETA workers to build greenhouses. CETA workers with the Southwest Corridor Farm in Boston (EEPA) also

(8)For more information on the new CETA law and its implications for community-based enterprises, see Chapter 5.

(9)Retrofit refers to the process of installing new equipment in an existing building or machine.

constructed a solar greenhouse, using scrap materials from an abandoned conventional greenhouse.

Both MOC and Citizens for Citizens obtained grants from the Community Services Administration to cover the cost of materials. MOC obtained workers through a CETA youth grant, while Citizens for Citizens employed adults through CETA Title VI. Citizens for Citizens has built two greenhouses since April, 1977. The first, covering an area of 800 square feet, used \$7,500 worth of materials and was built by seven CETA workers in approximately four months. The second, a more cost-effective design, is 500 square feet in area and costs only \$2,500 for materials. About 20 CETA participants were involved in building this greenhouse. These greenhouses have been used to grow seedlings for community gardens, to provide year-round garden plots for low-income or elderly people, and to experiment with hydroponics and fish farming (i.e., growing vegetables in water solutions and raising fish in tanks). The workers who built them gained both carpentry experience and familiarity with solar technology. Citizens for Citizens reports that four of the original seven members of its CETA crew found related employment very soon after the project ended. In addition, these greenhouses may have the potential to become self-supporting by growing starter sets, produce, and flowers to sell after their CETA grants terminate.

Citizens for Citizens was fortunate in having a staff person who was familiar enough with solar technology to design the greenhouses himself and to direct the CETA projects. The other two groups, however, sought volunteer assistance. In Boston, the Southwest Corridor Farm project received design help from a group of civil engineering students at Northeastern University and the MOC greenhouse was designed gratis by a local architect.

A greenhouse can be used to experiment with different types of solar collectors to see which materials are sturdiest and easiest to work with; it can also help give solar energy credibility in the community. Both MOC and Citizens for Citizens are considering building smaller solar greenhouses to attach to low-income homes to supplement conventional heating systems and provide year-round garden space. The experience gained in building community greenhouses will be invaluable in operating these more sophisticated projects.

b. Solar Retrofit

Another direction a group can take after gaining some experience with solar technology is to install solar heat or hot water systems in existing low-income homes. Although people usually think of solar retrofit as prohibitively expensive, a simple sitebuilt system can cost as little as \$500 for materials. In fact, when a house needs a new roof, it may cost only slightly more to build solar collectors than to install a conventional roof.

One community group in Boston, the Jamaica Plain Area Planning Action Council (JP/APAC), has planned a CETA youth project to install solar hot air heat systems in a small number of urban low-

income homes. Like Citizens for Citizens, JP/APAC has an experienced staff person to direct the project. He stresses working on homes which have been thoroughly weatherized and constructing as much as possible from scratch, to keep costs low. JP/APAC received Community Development Block Grant funds from the City of Boston to cover the cost of materials to retrofit a small number of homes. Other possible sources of funds for such efforts are listed in Chapter 7.(10)

c. Solar Cottage

A final model for a solar project is the solar and wood-heated cottage which is being constructed at North Adams State College. This CETA Title VI project employs 10 workers (a carpenter-foreman, six carpenters, a clerk/bookkeeper, a laboratory technician, and an engineering aide) to build a cottage which will serve both as a student living quarters and as an educational tool at the Center for Resourceful Living. The cottage was designed by an architect employed by the State College, and the project was directed by a faculty member. The Massachusetts Solar Action Office also provided some assistance.

The carpenters spent the first several months building experimental solar devices, including a solar-heated shed to store and dry lumber and cordwood. They also spent two months felling trees which were then milled to provide all the lumber for the cottage. This resulted in a great cost savings; while the value of materials in the completed building will be \$50,000, the actual cost will be closer to \$20,000. It is expected that the State College will cover the cost of materials, since the CETA grant was entirely allocated to wages, fringe benefits, and administration.

Ordinarily, CETA projects are not permitted to construct new buildings. However, this was an innovative, experimental project that the College would never have undertaken without CETA labor. The College consulted with local trade union representatives in designing the project and hired a union master carpenter as foreman, whose wages were supplemented by the State College to meet union rates. The project also hired a private contractor to excavate the cottage site and lay the foundation.

The crew members were all unemployed carpenters with considerable experience. They received classroom training and over the course of the year learned much about solar technology. In fact, some of the CETA workers have discussed forming their own solar construc-

(10)Recently, two Massachusetts organizations received a grant through the SUEDE program (Solar Utilization/Economic Development and Employment) to train CETA workers in solar technology and to install solar heating systems in low-income homes. The organizations are the University of Massachusetts (Amherst) and the Center for Ecological Technology (Pittsfield). The program is partly funded by the Balance of State CETA prime sponsor.

tion company when the project ends. Preliminary research has indicated that this might well be financially feasible if they could obtain start-up capital. Another possibility under discussion is that of setting up a local distributorship to sell manufactured solar components.

This project was somewhat unique because it was sponsored by a state college which contributed much in the way of technical expertise, equipment, classroom and lab facilities and money. It is, however, a good model in that it took unemployed carpenters and augmented their skills in a way that can help them find work in a new field. It also resulted in a building which will serve as an impressive demonstration to the public of the feasibility of solar and wood heat. A project like this could be sponsored by a non-profit organization, with technical support from a local university or from volunteers knowledgeable about solar design. In most cases, constructing a new solar building will be prohibitively expensive, but retrofitting a vacant building as part of a rehabilitation project may be feasible.

In planning a CETA-funded solar project (or an energy conservation project) the organization should consider how much training it wants to commit itself to. It can be exciting to operate a youth program to expose young people to the possibilities of alternative technologies; however, such programs have to spend much time teaching the participants basic carpentry skills before they can begin constructing solar heating systems. Adult CETA programs on the other hand, may be able to hire people who already possess some relevant skills.

Another related decision is how ambitious a project to undertake. This will depend on the capabilities of the CETA workers, and on the organization's technical, administrative, and financial capabilities. The North Adams State College project was successful because, while it involved sophisticated construction and design, it employed skilled workers and had excellent back-up support from the college. The MOC greenhouse project was also successful because although it employed untrained youth and had minimal funding to supplement the CETA grant, the project was designed at a scale appropriate for this level of expertise and support. An organization should carefully evaluate its resources and its objectives, and design a project that can be successful within these parameters.

D. Recycling Projects

Recycling is a somewhat different approach to conserving energy and natural resources. Unlike most of the projects discussed in this booklet, recycling does not produce direct monetary benefits for households or for the community. However, the larger benefits of recycling glass, paper, and aluminum are important. These benefits include a reduction in solid waste for communities to dispose of and, ultimately, a reduction in the cost of paper, aluminum, and other materials.

If properly operated, a recycling project can become partially or entirely self-supporting through the revenue it generates from selling materials to recycling plants. The amount of revenue depends on the volume of materials collected and on the degree to which these materials are processed at the local level. For instance, glass which has been separated by color and crushed will bring a higher price than unprocessed glass; paper which has been baled is worth considerably more than loose paper. If a municipality or community organization can make the initial investment in basic equipment and a public education campaign, it can start a recycling service which will eventually pay for itself or require only a small ongoing subsidy. CETA workers can help establish such a service by conducting public education, collecting recyclable materials, or by processing materials after they are collected.

One example of a private non-profit organization which has employed CETA workers in recycling is WHIPS, Inc., of Westfield. For the past 8 years, WHIPS (Westfield Helps in Pollution Solution) has collected and recycled glass, aluminum, and paper from Westfield households. WHIPS has relied primarily on volunteers to staff its collection sites, but since 1975 the group has received supplemental aid from two separate CETA projects, both of which have helped expand the scale of the recycling program.

WHIPS operates a central collection site and one satellite collection box on land donated by the city. During periods without CETA aid the collection sites are totally volunteer operated, and residents deliver their own recyclable materials to the sites. Volunteers separate and crush the glass and transport it to recycling plants, using trucks, which are sometimes leased and other times loaned by the local National Guard.

The first CETA project, in 1975-76, employed two workers. These workers managed the central collection site, adding an efficiency and dependability not possible with a totally volunteer staff. The second CETA project, a Title VI project of the Springfield prime sponsor, operated curbside collection of glass and paper from June, 1977 to June, 1978. The CETA crew consisted of four laborers and a supervisor. The curbside service was advertised through local media flyers; residents were requested to presort their recyclable materials and place them at the curb in labeled containers on their regular trash days. Using a truck, the CETA crew followed the trash route and transported the materials to the central collection site. A commercial collection route was also organized, collecting primarily from taverns and public housing projects. One-quarter to one-third of the city was covered in this way. (The population of Westfield in 1970 was 31,400.)

With the termination of the CETA project, WHIPS has discontinued its curbside pickup service. However, the group hopes to obtain funding for another CETA project to employ a crew of six. This project will enable WHIPS to offer collection services to an even larger area of the city. The group anticipates that with only a slight increase in volume the recycling project will be able to pay the salary of a part-time (at least) coordinator, as well as paying for upkeep of collection vehicles and other operating expenses.

The WHIPS experience demonstrates that a 12-month CETA project can be very useful in establishing or expanding a recycling service. However, one year is probably not long enough to develop a self-sustaining project. One solution to this problem is to seek a municipal subsidy for the service after the first year (or, if the project is sponsored by the local government, seek an ongoing subsidy.) Another approach is that taken by WHIPS -- to apply for a second CETA grant, designing the second project to serve a different part of the city or to have a different focus.

Before embarking on a recycling program, a community is advised to do preliminary "market" research to decide which materials to concentrate on and how to organize the recycling service. While WHIPS decided to concentrate on glass, other communities have emphasized paper, including newspaper from households and higher quality paper from offices. Several organizations in Massachusetts will help community groups and local government organize recycling programs. See the recycling section of Chapter 7 for a list of these groups.

One final comment on recycling programs is that while they provide a valuable public service, they do not offer a particularly challenging experience for CETA workers. Some aspects of the work are good -- e.g., organizing a publicity campaign to promote recycling -- but the bulk is unskilled labor. Consequently, recycling might be more appropriate as a CETA youth program or work experience program than as public service employment. The people participating in these programs can benefit from any job that teaches them good work habits, while public service employment programs ideally try to challenge their participants and increase their skills.

Chapter 4

Further Ideas



It is likely that energy will continue to be a serious issue for some time. The cost of conventionally-generated energy will remain high as the stock of non-renewable energy resources is further diminished. This means that, in addition to taking immediate measures, there is a need to develop a longer-term approach. Hence, while individual CETA projects of a year in length can be of value in themselves, they will have a significantly greater impact if they form part of a longer-term program. This chapter outlines ways in which a program using CETA can be developed over a period of time and suggests ways in which CETA projects might lead into community-based energy ventures.

Linking Projects Together

Under the new CETA law, projects can last for eighteen months, and a project may be extended for a second 18-month period at the prime sponsor's discretion.⁽¹¹⁾ While this solves the one-year limit problem that projects faced under the old CETA law, it is still a good idea to plan a series of CETA projects in which each builds upon the experience of the previous one. Although an individual CETA participant can work for a maximum of eighteen months, the organization sponsoring the project can use its experience to operate increasingly sophisticated projects. Some examples of the types of CETA projects that could be run consecutively include:

First Year

Second Year

- * energy audits - - - - - weatherization
- * cordwood cutting - - - - - wood-stove safety
- * solar greenhouse - - - - - food production
- * weatherization - - - - - oil burner maintenance
- * weatherization - - - - - solar retrofit

In the above pairs of projects, the focus changes between years, but it does so in an interrelated way. A weatherization project, for example, leads logically into an oil burner maintenance project and maximizes energy conservation and savings.

In cases where a CETA prime sponsor prefers not to fund the same project for a second 18-month period, another approach is to plan a second project that serves a different geographical area or a different target group. For example, an audit project could concentrate on private homes for the first eighteen months and public buildings for the second period; a weatherization project could concentrate on one neighborhood for the first period and a different neighborhood for the second eighteen months. To do this, the first project must be carefully planned so that it is indeed limited to one area.

Another approach to planning sequential projects is to add a training component in the second project if the first project lacked this. A further advantage of operating consecutive projects to provide similar services is that a few of the first year's CETA workers may be hired as administrators in the second project.

⁽¹¹⁾Prime sponsors still have the right to limit some or all of their public service employment projects to 12 months or less, if they choose to do so.

From CETA Projects to Self-Sustaining Enterprises

In a booklet entitled Starting Your Own Energy Business, Avrom Bendavid Val argues that "the current energy crisis has created unusual opportunities for starting small, neighborhood-based businesses in the energy field." (12) In Massachusetts, many community organizations are involved in promoting the economic development of their areas, and, since one of the goals of CETA is to help unemployed workers obtain permanent unsubsidized employment, it will be useful to explain the role CETA can play in maximizing these opportunities.

1. CETA projects and community economic development

It should first be stated that in community economic development terms, CETA energy projects can play a significant role even when they do not become self-sustaining ventures. As the case studies in Chapter 3 illustrated, CETA projects can reduce energy usage and make residents less dependent on sources of energy outside of their community. This means that over time more income can be spent in the local economy, to create further economic benefits through the "multiplier" process. If the CETA workers live in the locality, the wages they bring into the community will also have a beneficial impact.

CETA energy projects can also contribute to community economic development by providing training and employment opportunities in communities where there is high unemployment. In addition, in communities where skills have become obsolescent or unmarketable because of changes in industrial processes or withdrawals of industry, CETA energy projects can retrain people and help them enter an expanding field. To maximize the effect of training and skill development, CETA energy projects must be carefully designed and well run. In this respect, the actual process of designing and operating a CETA energy project can be important to community economic development since it helps in building the capacity and expertise of community organizations and in involving individuals in the future of their own communities, neighborhoods, and lives.

Finally, operating a CETA energy project, particularly if it is visible and innovative, can help increase community identity and self-confidence. This is a very intangible outcome, but it is one which can help build the right climate within the community to make other, more sophisticated, community economic development ventures successful.

2. Self-sustaining enterprises

The second role that CETA energy projects can play in community economic development is the establishment of self-sufficient energy ventures. There are several stages in establishing an energy enterprise, and CETA can fit in a variety of ways.

(12) Avrom Bendavid Val, Starting Your Own Energy Business, Institute for Local Self-Reliance, Washington, D.C., 1978.

For instance, a CETA project could help carry out planning or market analysis for a proposed energy venture. This could be a very important contribution because many community ventures have failed for lack of good planning and market analysis. One particularly appropriate way to do this is to use an energy audit project as a market study for a weatherization or retrofit enterprise. Another example, on a larger scale, is a county-wide energy analysis and plan through which the opportunities for community-run alternative energy production or conservation ventures could be identified. One place where this has been done is Franklin County, as described in Chapter 3.

CETA projects can also help in a more physical ("infrastructure") way, through the rehabilitation or adaptation of facilities for energy-related ventures. The Fall River example, where a CETA project established a solar greenhouse, is a case in point. There, a small produce and vegetable business in part of the greenhouse's space is expected eventually to pay the wages of a full-time greenhouse manager.

One very exciting possibility for using CETA to aid energy-related ventures lies in the rehabilitation of old, abandoned hydroelectric generators. There are about 2,000 abandoned dams in Massachusetts. While these dams were important providers of both water and electric power before the Second World War, they fell into disuse when cheap oil and gas became plentiful. A number of studies are now being carried out to determine whether it is economically feasible to restore some of these dams. Many of them may by now be too silted up to use and others may have insufficient water flows to produce worthwhile amounts of energy. But undoubtedly there are many which can be reactivated.

The role that CETA can play in hydropower restoration is two-fold. First, CETA participants can be used for survey and research work, identifying abandoned facilities and helping to determine where restoration is feasible. Second, CETA labor can help physically restore the facilities. This includes cleaning up parts of a river to increase water flows (the Methuen Public Works Department has done this on the Spicket River), helping to repair the dam itself, or helping restore adjacent generation buildings. The potential for CETA depends on the local situation; it is likely that there is more potential in smaller dams (around 50-100 kilowatts) where heavy capital expenditure and complicated physical or technical work are not required. The importance of careful planning and analysis, in this respect, cannot be overstressed.

The final role for CETA projects is to lead directly into a business venture which is designed to be self-sustaining (i.e., to eventually operate without CETA subsidy).

One objective of this kind of development is to retain as many of the CETA workers as possible in the new venture. This would utilize the skills and group identity gained during the CETA project.

An advantage of starting a new community energy venture from a prior CETA project is that CETA can provide labor and training subsidies. In addition, a CETA project may give an organization experience in marketing

its goods or services and help it build a steady clientele. However, the difficulties in following this model of community economic development should not be ignored.

First, although a CETA project can be considered a form of capital subsidy, all energy ventures will need additional capital which will have to be raised elsewhere. This is difficult to do despite the creation of new capital agencies such as the Massachusetts Community Development Finance Corporation (CDFC). Without adequate capital, the transition from a CETA project to a venture is impossible. For labor-intensive ventures like an audit business, however, capital may not be quite such a severe problem. In fact, a few community groups in Massachusetts have already begun planning to start energy audit businesses.

One way community groups have hoped to obtain start-up capital is by selling the services or products of a CETA project to raise cash. Here lies a second major problem because under the old CETA regulations this was not allowed; CETA projects could not retain program income, even if they intended to reinvest the money later. The new CETA legislation allows programs to retain income beyond the length of their CETA grant, as long as this income is used to continue the program. Consequently, when the new law and regulations take effect (April, 1979), the possibility of developing CETA projects into self-sustaining enterprises will be much more real.

Some suggestions to explore for developing ventures through CETA projects include:

CETA project

Self-sufficient energy business

- * weatherization - - - - - storm-window installation
- * audit and retrofit service - - - - - audit and retrofit business
- * wood cutting - - - - - cordwood co-op
- * hydro-electric restoration - - - - - hydro-powered, CDC owned factory
- * recycling- - - - - paper baling business

Chapter 5

Rules and Regulations



While CETA has been widely used by local governments, community groups, and non-profit organizations to operate energy programs, the legislation and regulations do present certain problems and constraints that must be understood in order to design and operate good programs. In addition, other state and federal laws and regulations affect certain types of CETA energy programs. This chapter discusses these regulations as they apply to CETA energy programs.

A. CETA Regulations

1. Project Limit

Under the new CETA law, a project may last for 18 months, and it may be extended for an additional 18 months if it has "demonstrated its effectiveness in meeting the purposes of this title." (13)

2. Maintenance of Effort/Non-Displacement

CETA workers must not displace the existing work force or replace contracts which municipalities have with private contractors. This has implications primarily for weatherization and recycling programs, since these are the only types of energy programs that a significant number of cities have operated using municipal employees or private contractors.

If a city has in the past hired private contractors with its CDBG money to weatherize private homes, it cannot use CETA labor to displace these contractors. It can, however, use CETA to expand its program to serve lower-income households which the private contractors could not help. It can also employ CETA workers to expand the nature of services offered, to include oil burner repair or energy audits, for example. In planning a CETA weatherization program, the program sponsor should confer with city officials, local contractors, and union representatives to ensure that the program will not displace currently employed weatherizers. In these discussions, the fact that the project will be confined to low-income homes, which would not be weatherized by private contractors anyway, should be stressed.

Although few cities currently operate recycling programs, this is another area where CETA projects should be careful to avoid maintenance of effort problems (i.e., displacing the municipal work force with CETA workers). In a city that does not provide municipal recycling services, a CETA recycling program will not risk maintenance of effort violations. In a city that has a limited recycling program, a CETA project can be used to expand the program -- e.g., to provide curbside collection of newspapers, glass, and metal; to expand a neighborhood service city-wide; to publicize the service; or to educate people about recycling. Before designing a CETA recycling project the sponsor, whether a community group or government agency, should investigate what services are already being provided in its locality and be careful not to duplicate these services.

3. Income Limit for Service Recipients

Most of the projects described in Chapter 3 serve the general public service goal of reducing consumption of non-renewable energy. However, a few types of energy projects, such as weatherization and solar retrofit, give tangible benefits to individual homeowners. For these projects,

(13)CETA, Section 605(a). As mentioned earlier, prime sponsors still have the right to limit projects to less than 18 months.

the individuals served must be low-income. The CETA law states that CETA can fund weatherization projects serving "families having incomes which do not exceed 125% of the poverty level...and projects approved by the Community Services Administration...or the Department of Energy."(14)

The poverty level, for purposes of CETA programs, is established by the Office of Management & Budget and is periodically revised. As of April, 1978, the levels (non-farm) were:

<u>Family Size</u>	<u>Poverty Level</u>	<u>125% of Poverty Level</u>
1	\$3,140	\$ 3,925
2	4,160	5,200
3	5,180	6,475
4	6,200	7,750
5	7,200	9,000
6	8,240	10,300

Unlike weatherization programs, energy audit programs have not been restricted to serving low-income households.

4. Wage Limit

The new CETA law, like the old law, puts a \$10,000 limit on CETA wages. In addition, a new limit has been placed on the supplementation of CETA wages from other sources. Only Title VI participants may have their wages supplemented, and only by 10%. This translates into an overall maximum of \$11,000 per year, and means that projects wishing to hire a few supervisors at prevailing union wage rates may have to fund these positions from totally non-CETA sources.

In addition, the average wage has been reduced from \$7,700 to \$7,200, which means that the number of \$10,000 (maximum wage) positions will be reduced.

5. Program Income

As mentioned in Chapter 4, the new CETA law permits program income "to be retained by the recipient to continue to carry out the program. notwithstanding the expiration of financial assistance for that program."(15) The exact effect of this provision will be clarified by the regulations in April 1979. The likelihood is that the new regulations will encourage projects to achieve self-sufficiency by retaining and reinvesting income, as suggested in Chapter 4.

(14)CETA, Section 123(c)

(15)CETA, Section 123(h)

B. Federal Davis-Bacon Act

The Davis-Bacon Act, approved by Congress in 1931 and amended on subsequent occasions, regulates wages of workers employed with federal funds in the construction and repair of public buildings or in public works. When the Davis-Bacon Act applies to a particular project, workers must be paid at or above locally prevailing wages set by the Secretary of Labor for their various trades and skills.

There is some dispute as to whether CETA weatherization and solar retrofit or construction programs fit the Davis-Bacon definitions of construction, repair, or public works; there is also a question about whether programs that use federal funds to weatherize or retrofit private low-income homes are subject to the Davis-Bacon Act.

In any event, Davis-Bacon does not apply to the wages in CETA projects if only CETA funds are being used. However, if CETA funds are used in conjunction with funds from another federal program, "applicability of Davis-Bacon is determined by the statute under which the other federal funds are obtained." (16)

For instance, in the case of Community Development Block Grants (CDBG), a major complementary funding source for CETA, the law specifically exempts from Davis-Bacon the rehabilitation of residential property unless the property "is designed for residential use of eight or more families." (17) Most low-income owner-occupied homes are therefore exempt.

As for CSA-funded weatherization programs, the law is unclear as to whether Davis-Bacon applies. Davis-Bacon has generally not been enforced for CETA weatherization projects, and the CSA General Counsel recently issued a memo stating the legal opinion that these projects are exempt from Davis-Bacon. (18) However, the issue is not yet officially resolved.

The Economic Development Administration (EDA) has responsibility for two pieces of legislation through which funding may be available for CETA energy projects. These are the Public Works Employment Act of 1977 (P.L. 95-28) and the Public Works and Economic Development Act of 1965 (P.L. 89-136, as amended). The Davis-Bacon regulations for these Acts state that contractors must pay Davis-Bacon wages or state prevailing wages, whichever are higher.

There is one item of legislation, however, which has no Davis-Bacon wage provisions -- the National Energy Act, which authorizes the low-income weatherization programs that were formerly included in the Energy Conservation and Production Act of 1976.

(16) Federal Register 29 CFR, Part 98.29, October 18, 1977.

(17) P.L. 93-383, Title I, Section 110. (Housing & Community Development Act of 1974)

(18) Memo to CSA Regional Counsels from Frank N. Jones, CSA Assistant Director for Legal Affairs, re. "Opinion...on Applicability of the Davis-Bacon Act to CSA Grantees," June, 1978.

For more information on wage requirements of these or any other programs the local or regional office of the respective funding source should be contacted.

Even when the Davis-Bacon Act does not apply to a CETA program, the CETA regulations require that CETA workers receive the same wage, rights, and benefits as non-CETA workers doing similar work in the employing agency. In addition, in CETA projects involving construction occupations, the Department of Labor also requires that prime sponsors consult with local building trades unions about the wage rates, work statements, etc.(19) Again, this might affect weatherization and solar retrofit projects. In projects involving skilled labor, it is always a good idea to involve local unions as much as possible.

C. State Prevailing Wage Law

The State Prevailing Wage Law (Mass. General Laws Ch. 149, S.26) applies to construction and rehabilitation of public buildings. Structures owned by private individuals or private non-profit organizations are exempt, even if municipal funds are used in the program. While this law might be invoked for weatherization or solar retrofit of public buildings, these activities are not strictly construction or rehabilitation. Some CETA projects have avoided the question altogether by assigning CETA workers to do only the less-skilled weatherization tasks (such as weatherstripping and caulking), for which the prevailing wage is low or not established. Other project operators have worked out mutually beneficial agreements with local building trades councils in which supervisors (union members) are paid prevailing wages and CETA "trainees" receive CETA-level wages. For more information on the State Prevailing Wage Law, contact the Legal Counsel, Massachusetts Department of Labor and Industries at (617)727-3452.

D. Building and Energy Codes

Under Chapter 802 of the Massachusetts General Laws, any construction and building work must conform to state and local building codes. Energy projects which involve work on buildings -- including such tasks as insulating houses or installing solar roof panels -- will therefore require a permit. The only type of work exempt from permits is ordinary repair work, like maintenance or painting.

An important part of the state building code is the energy code. Besides establishing energy standards for new construction, it also applies to additions and alternations to existing buildings. Energy projects can comply with the code either by ensuring that any components or materials meet the performance specifications or by showing through a systems analysis

(19)U.S. Department of Labor, Region I Letter Series No. 318-77 Change I, August 21, 1978.

that no more energy is used after the additions or alterations than in a similar dwelling which met the code through component design.(20)

For detailed information on the building and energy codes and on permit procedures, project sponsors should contact their local municipal building inspectors, who are responsible for enforcing the codes at the local level.

E. Licensing Requirements

For certain skills that may be involved in CETA energy programs, workers must be licensed by the State or closely supervised by licensed tradespeople. These include plumbers, who may be needed for solar retrofit projects, and oil burner maintenance workers. The oil burner repair licensing is handled by the Department of Public Safety, Division of Inspection/Engineering, (617)727-7686. For information about other licenses, contact the Department of Labor and Industries, 727-3452.

(20)See: An Illustrated Guide to the Massachusetts Energy Code for One- and Two-Family Dwellings, Massachusetts State Building Code Commission, August, 1978.

Chapter 6

Sources of Funding



Because CETA's contribution to an energy project is almost entirely in wages and training funds, most projects will have to seek additional money to cover the cost of materials, administration, etc. There are a variety of local, state, federal, and private grants for which energy projects can compete. This chapter describes some of these, and others can be found by contacting the sources of technical assistance listed in Chapter 7.

1. Appropriate Energy Technology, DOE
Mr. Robert Philpott, Director
Conservation, Solar and Resource Applications
Department of Energy
150 Causeway Street
Boston, MA 02114
(617/223-3106)

The Department of Energy administers a grant program for small-scale projects to explore new energy technologies that are appropriate to local needs and skills. Projects may be sponsored by individuals, local non-profit organizations, state and local agencies, Indian tribes, and small businesses. Approximately one million dollars in grant money will be awarded in New England for energy-related projects: up to \$10,000 for idea development projects, and up to \$50,000 for testing and demonstration projects.

Proposed projects should develop, demonstrate, and disseminate information with respect to energy-related systems which are appropriate to:

- (a) the needs of local communities and the enhancement of community self-reliance through the use of available resources;
- (b) the use of renewable resources and the conservation of non-renewable resources;
- (c) the application of existing technologies to novel situations;
- (d) applications which are energy conserving, environmentally sound, small-scale, and low-cost; and
- (e) applications which demonstrate simplicity of installation, operation, and maintenance.

Project developers are encouraged to seek other sources of funds to complement the DOE grants. Thus, there is potential for CETA to be combined with appropriate technology grants.

2. New England Regional Commission (NERCOM)
Economic Development & Transportation Program
53 State Street
Boston, MA 02109 (617/223-6330)
Contact Person: Wendy King (Lt. Governor's Office) - 727-7214

This program provides grants of \$10,000 or more to promote regional economic development. Projects which have been funded include: upgrading of railroad tracks, conrail surveys, energy management systems, alternative energy development (wind mills, thermal power), and tourism. The rehabilitation of hydro-electric systems is another project possibility which might be worth investigating. NERCOM funding for FY'78 totalled \$8 million regionally, and although CETA has not been linked with NERCOM in the past, this seems to be a possibility for energy projects.

3. New England Regional Commission (NERCOM)
Governor's Discretionary Funds
53 State Street
Boston, MA 02109 (617/223-6330)
Contact Person: Wendy King (Lt. Governor's Office) - 727-7214

This program provides grants of \$10,000 or less to promote economic development through public and private investment. As yet, no CETA projects have tapped this funding, but the possibility exists. In FY'78, grants totaled \$50,000. Projects that have been funded include a feasibility study for Somerville United Neighborhoods' cellulose insulation factory (\$10,000) and a waste recycling program at the Cambridge Housing Authority (\$9,000).

4. Earthworm
210 Lincoln Street, Rm. 309
Boston, MA 02111
(617/426-7344)

This paper recycling collective provides small grants (\$500 maximum) to community groups in the Boston area to establish recycling centers and energy self-sufficiency programs. Earthworm also offers technical assistance.

5. The National Center for Appropriate Technology
Butte, Montana (406/723-5474)

Funded by the Community Services Administration, the Center is oriented toward low-income people and community action agencies. Nearly 100 grants have been awarded to date, and although the Center supports all types of appropriate technology projects, most grants to date have been related to energy, including recycling and solar projects. Funding proposals are acted upon quarterly.

6. Community Development Finance Corporation (CDFC)
131 State Street, Suite 600
Boston, MA 02109
(617/742-0366)

CDFC was created by the Massachusetts legislature in 1977 to provide equity and debt financing for community-based economic development in low-income areas. It has a total of \$10 million to invest in enterprises that show strong potential to break even or make a profit. To be eligible for CDFC financing, a group must be incorporated as a community development corporation (CDC) and the majority of its board members must be elected by area residents. While it takes a certain amount of business sophistication to apply for CDFC funds, it is quite possible for a community group to gain experience operating a CETA project which will help prepare it for a CDFC-financed venture in energy auditing, weatherization, solar retrofit, or other areas.

7. Community Development Block Grants (CDBG)

Community Development Block Grants, which are allocated to the city governments by the Department of Housing and Urban Development, can be combined with CETA funds for a variety of energy-related programs. The emphasis of CDBG is on neighborhood revitalization, and programs may be run either by city hall or by neighborhood organizations. Cities with populations of over 50,000 receive annual CDBG "entitlement" grants, while smaller towns can compete for "discretionary" funds, which total around

\$13 million annually in Massachusetts. Discretionary funds are awarded by HUD based on proposals for specific programs submitted by cities and towns; entitlement funds, however, are distributed within a city at the discretion of the local government, as long as the programs funded fall within HUD guidelines.

One of the most common uses of CDBG money is housing improvement, which often includes weatherization. Many cities hire contractors to provide these services to low-and moderate-income people. A city which already operates such a program could not plug CETA workers in as weatherizers because this would displace private contractors. However, in a city that does not currently provide weatherization services, a CETA-CDBG weatherization project can be very effective. It can be run by the city itself or by a neighborhood group, with CDBG funding a supervisor and weatherization materials, and CETA providing the labor. A city that already operates a housing rehabilitation program could easily add a CETA weatherization and/or auditing component. An example is the Cambridge Just-A-Start program described in Chapter 3.

In the area of alternative energy production, there is much potential for combining CDBG with CETA. Solar retrofit can be included as part of a housing rehabilitation program, in which CDBG money buys the materials and CETA workers build and install the heating systems. CDBG funds can also be used to rehabilitate community buildings (owned by non-profit organizations) and, again, a CETA project can install an appropriate technology system to heat the building. A closely related idea is to combine CDBG with CETA funds to build a solar greenhouse to be used for community gardens, or to build a large solar collector system to be shared by all the homes in the city block. (This has been done by the San Bernadino West Side CDC in California.)

It should be noted that when CETA funds are combined with CDBG (as well as most other federal funds) for construction projects, there is a possibility that the Davis-Bacon (federal prevailing wage) Act will take effect. However, when CETA funds are combined with CDBG, Davis-Bacon takes effect only if the building to be rehabilitated is a public building or a private building containing more than eight units. Most older homes, then, as well as buildings owned by private non-profit organizations, are exempt. This applies both to weatherization programs and to alternative energy production.

Another area that holds potential for CDBG-CETA linkages is recycling. In some cities, collection of recyclable materials is funded by CDBG in "neighborhood strategy areas"; CETA workers can work in conjunction with such a program to serve part of the city not covered by the CDBG program. In a city that does not fund recycling, a CETA project can provide an incentive for the city to commit CDBG money to recycling--the city might be willing to fund a supervisor and collection facilities if CETA would provide the bulk of the labor. Such a program could be run either by the local government or by a community group.

A final possible use of CDBG funds is for community-based enterprises. With HUD approval on a case-by-case basis, CDBG can provide grants or loans

for equipment or working capital to community economic development organizations. Such organizations could combine this money with CETA labor and other grants and loans to start potentially self-sustaining recycling programs, energy audit programs, etc.

8. Private Foundations and In-Kind Contributions

Private foundations should not be overlooked as a source of start-up funds for local groups. Foundations usually require less paperwork than federal grant programs, and have a shorter lead time between the application and the awarding of the grant, if the application is timed to match their funding cycle. A good source of information is Associated Foundations of Greater Boston, 295 Washington Street, Boston, Massachusetts (617/426-2606).

In-kind contributions of furniture, machinery, office space, materials, and training are also available from many companies, who receive tax credit in return.

Chapter 7

Sources of Technical Assistance



A. Solar Energy / Alternative Technology

* Cooperative Extension Service
Energy Program, Station Service, Tillson Farm
University of Massachusetts
Amherst, MA 01003 (413/545-2132)

Energy specialists at U. Mass. provide advice over the phone regarding wood and solar energy, insulation, moisture problems, vapor barriers, and other heating issues. They are co-sponsoring a Solar Utilization/Economic Development & Employment (SUEDE) Project which will train CETA workers to construct and install solar heating systems in low-income homes.

- * Northeast Solar Energy Center
70 Memorial Drive
Cambridge, MA 02142 (617/661-3500)

The Northeast Solar Energy Center, serving New England, New York, New Jersey, and Pennsylvania, offers technical assistance in many forms, from helping a group write its funding proposal to actually installing insulation. The Center holds one-day solar system installation training sessions.

- * Solar Action Office
Room 1413, One Ashburton Place
Boston, MA 02108 (617/727-7755)
Contact person: Peter Thorn

This state agency offers technical assistance ranging from finding money and writing grants to designing solar systems. Staff will answer phone inquiries and provide direct assistance in the field.

- * Center for Ecological Technology
P. O. Box 427
Pittsfield, MA 01201 (413/445-4556)
Contact person: Laura Dubester

In addition to providing technical assistance in the areas of solar greenhouses, energy audits, and weatherization, the Center hopes to start several alternative energy demonstration projects including a solar weather station, and waste disposal and efficient food production projects. It is co-sponsoring the SUEDE program with U. Mass.

- * Office to Coordinate Energy
Graduate Research Center
University of Massachusetts
Amherst, MA 01003
(413/545-0926)

The Office to Coordinate Energy is a resource center for alternative energy production and energy conservation. It is co-sponsoring the SUEDE program and is interested in participating in other CETA energy programs with local groups. The office can put groups in touch with local and national resources for energy programs; its library is open to the public, and its staff provides technical and training assistance.

- * National Solar Heating and
Cooling Information Center
P. O. Box 1607
Rockville, MD 20850 (800/523-2929)

This Center is funded by the Department of Housing and Urban Development in conjunction with the Department of Energy. Located in Rockville, Maryland, the Center has a toll free number to handle information requests. The Center is a major source for information on solar energy.

* New England Solar Energy Association (NESEA)
P. O. Box 541
22 High Street
Brattleboro, VT 05301

The New England Solar Energy Association provides limited technical assistance and refers community groups to sources which are best able to provide specific types of assistance. NESEA also publishes the bi-monthly New England Solar Energy Newsletter and sells books on solar energy, including:

Build Your Own Solar Water Heater
Solar Room Plans
Practical Solar Heating Ideas with Sunlight
The Fuel Savers: a kit of solar ideas for existing homes
The Northeast Yellow Pages of Solar Energy Resources
DIY-SOL Heating System Design and Construction Manual
The Solar Greenhouse: design, construction and operation
Woodburners Encyclopedia
Solar Heated Houses for New England and Other North Temperate Climates
Practical Sun Power
The Solar Energy Notebook

NESEA's booklist contains many more publications. It is available by mail or at NESEA's annual solar conference.

* Hands-On: A Guidebook to Appropriate Technology in Massachusetts
Massachusetts Self-Reliance Project
University of Massachusetts
P. O. Box 459
Amherst, MA 01002

This recent publication is a comprehensive guide to what is being done in Massachusetts in the areas of solar, wind, wood, and other alternative technologies. It is available by mail for \$3.75, checks payable to U. Mass/Hands-On.

* New Roots
P. O. Box 459
Amherst, MA 01002
(413/545-0926)

New Roots is a New England journal of appropriate technology, funded partially by a grant from the National Center for Appropriate Technology. The journal, as well as its staff (housed at the University of Massachusetts Office to Coordinate Energy), is a good source of information about the network of groups in New England that are involved in alternative energy pro-

duction and other appropriate technology activities. Subscriptions to the journal cost \$6.00 per year.

- * Citizens for Citizens (CFC)
264 Griffin Street
Fall River, MA 02724 (617/679-0041)

This community action agency has employed CETA workers to build two solar greenhouses, as described in Chapter 3. CFC staff welcomes the opportunity to provide technical assistance to other CETA groups involved in alternative energy projects.

- * Massachusetts Energy Office
73 Tremont Street
Boston, MA (617/727-4732)

This state agency can provide assistance in developing alternative energy projects, including the restoration of hydro-electric power facilities. The contact person for hydro power is Phyllis Gardner.

B. Weatherization / Energy Audits

- * Cooperative Extension Service
Energy Program, Station Service, Tillson Farm
U. Mass. - Amherst, MA 01003 (413/545-2132)
Contact person: Dom Parisi

The Cooperative Extension Service has operated energy audit training programs for CETA participants and hopes this fall to conduct wood and thermal demonstration projects. Technical assistance is offered, as described under the Solar Energy section.

- * Elderly Special Needs and Winterization Project
Hampshire Educational Collaborative
127 Russell Street
Hadley, MA 01035 (413/586-4590 or 2203)
Contact person: Cynthia Monahan

This CETA Youth Winterization project is administered by the Hampshire Educational Collaborative and the Hampshire Community Action Project. Project staff and trainees have learned to winterize homes and gladly offer technical assistance to other community groups.

- * ECON, Inc.
286 Congress Street
Boston, MA 02210 (617/482-3460)

Energy Conservation (ECON), which received CETA and Governor's Discretionary Vocational Education Funds in 1978, trains people in energy audits and weatherization. ECON provides technical assistance to its graduates and to the general public.

- * Center for Ecological Technology
P. O. Box 427
Pittsfield, MA 01201 (413/445-4556)

In addition to its work in alternative energy, the Center for Ecological Technology has conducted energy audit workshops for CETA workers. The staff welcomes opportunities to provide technical assistance to other community groups.

- * Massachusetts Energy Office
73 Tremont Street
Boston, MA (617/727-4732)

In addition to its work in alternative technology, this state agency has publications and staff available to help local groups set up energy conservation programs. For residential sector programs, the Energy Office can offer advice on designing weatherization, audit and other types of projects, and can also link a group with others in its locality who are operating related programs. For commercial sector programs, the agency can provide a manual for energy audits in stores and information on the new state lighting code. For hospitals and schools, the office provides information on sources of money for weatherization which will soon be available through the National Energy Act. Copies of the ECAP evaluation, discussed in Chapter 3, can be obtained from the office.

- * Office to Coordinate Energy
Graduate Research Center
University of Massachusetts
Amherst, MA 01003
(413/545-0926)

In addition to its work in alternative technology, this office has worked with energy audit and weatherization programs and is interested in co-sponsoring CETA energy programs with local groups. It can also provide technical assistance and training.

C. Recycling

- * Earthworm
210 Lincoln Street, Rm. 309
Boston, MA 02111 (617/426-7344)

Earthworm is a recycling collective which collects and processes paper from offices, colleges, and computer companies. The income generated in this way helps finance community-based efforts toward recycling and energy self-sufficiency. Earthworm also provides technical assistance to community groups, from the marketing of materials to compilation of financial needs data.

- * North Shore Recycled Fiber Corp.
53 Jefferson Avenue
Salem, Massachusetts 01970 (617/744-4330)
Contact person: Pat Scanlon

This paper recycling company has a full-time technical assistance provider, Mr. Pat Scanlon. He has helped numerous groups start recycling-projects, including Action, Inc., in Gloucester and CETA-funded groups in the Greenfield area. In addition to working with paper recyclers, Scanlon can provide the names of glass and can manufacturers to groups interested in recycling those materials.

- * Bureau of Solid Waste Disposal
Department of Environmental Management
Saltonstall Building, Rm. 1905
Boston, MA 02202
(617/727-4249)

The Bureau of Solid Waste Disposal offers technical information about solid waste treatment and recycling. The Bureau also provides marketing information and can review a proposal in order to attach a general support letter. In addition, the Bureau is sometimes able to refer community-based groups to a limited number of funding sources. Names of existing community organizations and contact persons already involved in recycling can also be obtained from the Bureau.

D. Other Technical Assistance

- * Technical Development Corporation (TDC)
11 Beacon Street
Boston, MA (617/523-7557)

Technical Development Corporation (TDC) is a private, non-profit organization which provides technical assistance in market analysis, feasibility studies, financial plans, engineering studies, business development, financial analysis, proposal writing, and locating funding sources. The decade-old business possesses expertise in the areas of energy, employment, job creation, and economic development.

- * The Institute for Local Self-Reliance
1717 18th Street, N.W.
Washington, D.C. 20009 (202/232-4108)
Contact person: David MacGregor

The Institute for Local Self-Reliance publishes a variety of handbooks on energy issues, conducts workshops, and for a fee helps community groups develop energy-related businesses. Its publications include: The Kilowatt Counter (a consumer's guide); The Dawning of Solar Cells; Garbage in America; Approaches to Recycling; Sewage Treatment in our Urban Communities; and Starting Your Own Energy Business (outlining capital, labor, and expertise requirements).

* Energy Training and Education Center (ETEC)
Education Collaborative for Greater Boston, Inc.
20 Kent Street
Brookline, MA 02146 (617/738-5600)
Contact person: Jim Darr

ETEC is a new in-school program which will develop private sector involvement in youth education, training, and employment in energy fields. ETEC will provide comprehensive and credited education, work experience, and training for 100 youth in the Boston area. It will develop an energy curriculum, conduct seminars, and provide other energy-related resources to educators, CETA administrators, and private employers.

ETEC will answer telephone inquiries regarding youth training for energy fields and placement in private sector energy jobs, and will distribute informational brochures by late fall, 1978. Curriculum materials will be available for distribution to school systems, but broader distribution will not take place until 1980.

* Rural Housing Improvement, Inc.
14 Walnut Street
Winchendon, MA 01475 (617/297-1376)

Rural Housing Improvement (RHI) is a private non-profit housing development corporation funded by the Community Services Administration, Farmers Home Administration (FMHA), Mass. Department of Community Affairs, and the Department of Housing and Urban Development. It assists rural community groups in planning programs and in securing housing and community development funds, and has been quite successful in helping towns obtain discretionary Community Development Block Grant Funds. In addition, RHI processes homeowners' applications for FMHA loans and grants, which can be used for weatherization. Staff can also review and comment on community groups' grant proposals and, where appropriate, write letters of support.

* Conservation Law Foundation of New England, Inc.
3 Joy Street
Boston, MA (617/742-2540)

The Conservation Law Foundation (CLF) provides free advice and assistance to individuals, organizations, and agencies on the interpretation and enforcement of laws affecting the environment (including zoning, building codes, etc.) CLF is dedicated to the conservation and preservation of New England's natural resources, and its Legal Aid Program has recently placed an increasing emphasis on assisting non-profit organizations. CLF is regularly approached by the Appalachian Mountain Club, the New England Sierra Club, the Massachusetts Audubon Society, and a large number of smaller organizations for counsel on the legal implementation of their goals and policies.

